DOCUMENT RESUME

ED 170 247 SP 014 099

AUTHOR Cronin, Joseph M.
TITLE Curriculum Development: A State Perspective.
SPONS AGENCY National Inst. of Education (DHEW), Washington, D.C. Task Force on Curriculum Development.
PUB DATE 29 Oct 76
NOTE 35p.; Paper prepared for the NIE Curriculum Development Task Force; for related documents, see SP 014 095-115, SP 014 185-186, ED 124 530, ED 140 401, and ED 144 217

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Curriculum Development; Decentralization; Educational Finance; Educational Innovation; *Federal State Relationship; Needs Assessment; *Policy Formation; State Departments of Education; *State Federal Aid; State Standards

ABSTRACT

The point of view of a state superintendent of schools on the subject of federal and state cooperation in developing school curriculum is presented. The following major issues are discussed: (1) educational scholars working cooperatively with school practitioners produce practical and workable curriculum; (2) states have the primary responsibility for educational goalsetting, finance, supervision, and implementation; (3) federal stimulation of innovation generally and vocational education in particular works effectively when most of the funds are contracted by states according to carefully designed plans; (4) single option curricula or single models fail to provide the range of alternatives needed in different states and school districts; (5) labs and centers succeed only to the extent they work closely with states and local consumers; (6) the federal government should stimulate efforts to define education in other than school settings; (7) curriculum research should focus on difficult problems of learning and teaching of other than normal clientele, e.g., handicapped, low-income, and ethnic groups; (8) many different agencies should compete for the right to develop new curricula; and (9) federal government should not develop or determine curriculum but should contract the development and evaluation to others, leaving most implementation work to states, regional networks, and local schools. (JD)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED170247

CURRICULUM DEVELOPMENT: A STATE PERSPECTIVE

Joseph M. Cronin
Illinois State Superintendent of Education

A paper prepared for the
NIE Curriculum Development Task Force

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

OCTOBER 29, 1976

SP014099

A Summary of Policy Issues

1. College entrance requirements and the expectations of university professors now determine only a portion of the school curriculum; scholars working without the partnership of school practitioners may produce educational Edsels.

2. States have the primary responsibility for education goal-setting, finance, supervision and the implementation of new curriculum.

3. Federal stimulation of innovation generally and of vocational education in particular, has worked effectively when most of the funds are subcontracted by states according to carefully designed plans.

4. Single option curricula or single models fail to provide the range of alternatives needed in different states and school districts -- e.g., in math.

5. Labs and centers succeed only to the extent they work closely with states and local consumers, often a missing link to date.

6. The federal government should stimulate efforts to define education in other than school settings.

7. Curriculum research should focus on difficult problems of learning and teaching more so than on normal clientele except where the need is to shift pedagogy for all -- e.g., metrication.

8. Many agencies and vendors should compete for the right to develop new curricula.

9. NIE should not develop or determine curriculum but should contract the development and evaluation to others, leaving most of the implementation work to states, regional networks and local schools.

10. Additional resources will be needed to a tune of $600,000,000 a year by the early 1980's to do the job.

EXECUTIVE SUMMARY

CURRICULUM DEVELOPMENT: A STATE PERSPECTIVE

Joseph M. Cronin

For decades, the university shaped the curriculum in American schools, and to this day high schools remain oriented to college entrance requirements. They teach geometry, alegebra, history, English, three sciences and several foreign languages because that is what college people traditionally expect.

In the late 1950's and early 1960's we saw federal policy being shaped and massive infusions of money put into programs that the government felt were not being satisfied by state and local practices. The war on poverty, it was reasoned, could be won essentially through funneling federal funds into urban ghettos and rural backwaters and hollows. Out of our embarrassment by Sputnik came many science and math curricular models, financed largely by the National Science Foundation.

The 1960's saw the federal government investing heavily in vocational education programs, innovative education programs, programs for the handicapped, and programs for the poor, to provide them not only with essential skills but also with adequate diets. And with this investment came the guidelines, and the rules and regulations. Ironically, from 1965-1970 the federal government did more than most state legislatures to strenghten state capacities for planning, evaluation and leadership.

The states, however, did not sit back and let the university and federal government shape the curriculum. Quietly they have reexamined their goals and clarified objectives for the schools. Ninety percent of the funds for schools come from state and local sources and the authority to run the schools from state institutions and law -- not the U.S. Constitution. State boards of education and legislatures now are raising basic questions about the content of curriculum and the performance in schools. The Illinois Board has voted to establish responsibility education, a mixture of conservation education, consumer skills, health and safety, and government and law, as a curriculum priority. Oregon has formulated specific objectives for high school graduation, in particular for achievement in basic skills and citizenship.

Of course, the local district makes curriculum decisions for their own local schools, one choosing to concentrate on urban problems, one in a heavy offering of vocational skills, another in college preparatory -- this done by carefully parcelling out scarce dollars and by complying with ever increasing federal and state rules and regulations.

Still a great influence on classroom curriculum practices is the purveyor of the textbook, the map, the learning package. Their salespeople tell the research and development people what the states, the school district and the teacher want and plan their materials accordingly. Their dollars must count or they will go out of business. Meanwhile, parents and local taxpayers are increasingly

demanding that the school start following a back to basics curriculum, or implement an early childhood or special education program. Each group shares some priorities but has different needs.

What Can Be Done and Should NIE Help?

Within the framework of national, state and local priorities and with the recognition that the nation of a single "national curriculum" runs counter to the idealogy of state and local control and free choice, we need to develop a tool that assesses needs, goals and priorities and gear it to practice -- at the local level, in the classroom.

Once local goals and priorities are identified information on proven practices, identified from throughout the nation, can be selected to meet that goal. Federal and state resources would provide training assistance to put these programs into practice as well as provide evaluative services.

Where gaps in proven practice appear, perhaps in areas of migrant education, women's equity, mainstreaming of special education, federal and state resources would be used to engage in research and development. The private sector, as well, would be encouraged to respond by developing materials around proven practices.

What would be NIE's role? First, helping to develop a nationwide assessment tool, and a dissemination bank of proven practices. Once a year a needs inventory would be taken and those areas lacking in proven practice would be placed on NIE's research and development agenda. The county or regional services agency would be used to help support teachers get the information and materials they needed.

Normally, NIE would package a single solution or "delivery system" but would offer an array of options. These would respond to national, state and regional concerns and would be developed by a team of practitioners and scholars with critics and evaluators present at each stage of development. Ten states would make available sites for field testing of curriculum and materials and state officials would participate in the evaluation.

When a curriculum is validated the states would help regional and local officials and teachers secure the most appropraite form of in-service training and other resources needed. Certain new, complicated and sensitive issues, e.g., bilingual education or sex desegregation, may require additional multi-state regional centers for a period of time for after ten years. Some topics such as international education or evaluation of reading may require a long commitment to a single scholar, a university, or an association.

NIE should contract out virtually all of the development, evaluation, and dissemination activities on an RFP basis to qualified vendors, public and private. The internal staff should engage in policy planning, agenda-setting, contract management, quality-control and budgetary preparation

The Resources Needed

NIE observes that USOE spends $100 million a year for vocational and technical education materials development and evaluation. NSF spends $15 million a year just on science and related fields. Clearly to expect the rest of education to develop on $100 million is absurd. NIE at full strength would spend:

$100 million for basic research
$200 million for applied research of which one-half would be on curriculum and program issues, the balance on evaluation assessment
$100 million on vocational educational research, a function transferred to NIE in 1980's
$100 million on special education research, similarly transferred to NIE
$100 million on dissemination and implementation, one-third to national and special efforts and two-thirds to state and regional agencies.

To avoid the implementation investment is to put educational change back in the world described by Paul Mort. Goodlad properly identifies the need for networks to support innovation and curriculum change. Many of the networks for change are in place. Some of the urban problems -- bilingualism, and segregation -- require multi-state regional centers. The long range or other than school solutions need sponsorship by associations or special consortia.

CURRICULUM DEVELOPMENT: A STATE PERSPECTIVE

Joseph M. Cronin
Illinois State Superintendent of Education

For decades the university shaped the curriculum of American schools. High schools remain oriented to college entrance requirements to this day. Schools teach geometry, algebra, history, mathematics, English, several foreign languages, and three sciences because that is what many college people traditionally expect.

Whenever schools stray very far from a "basic" or "solid" curriculum, teams of conservative academic critics gun down the innovation. During the 1930's the Eight-Year Study proved that students succeeded in college even when their school did not comply with traditional subject requirements. But the war intervened and the high schools remained essentially unchanged. During the 1960's the progressive education movement was done in by Sputnick and the efforts of scholars and defense experts to restore formal academic rigor to the curriculum. During the 1970's the numerous national reports on the need to make high school education more meaningful to youth faced a cross fire of protest labeled "back to basics." Who should make these choices about curriculum and how? How can the federal government be helpful?

Quietly the states have reexamined their educational goals and clarified objectives for their schools and well they should. Ninety percent of the funds for schools comes from state and local sources. Authority to run the schools flows from state constitutions and statutes, not from the U.S. Constitution

which remains silent on education matters. State legislatures and boards now raise basic questions about the content of curriculum and the performance of the schools. Federal policy-makers must consider the fundamental question of the state role in educational change.

California has decided on a major expansion of early childhood education and ponders a sweeping change and reform of secondary education.

Oregon has formulated specific objectives for high school graduation, in particular for achievement in basic skills and citizenship.

Michigan voted to evaluate each school with considerable precision and to send new money to schools needing funds to improve performance.

New Jersey courts sustain a major state initiative to devise and define a "thorough and efficient education."

The Illinois State Board of Education voted to establish responsibility education as a curriculum priority, a mix of required school programs including:

Conservation Education

Consumer Skills

Health and Safety Education

Government and Law Education

Also the Illinois program stimulates economic education, community-based experiences in agencies and work, values education and career education.

States generally provide staff assistance to local school districts and program areas, new and old, to work on curriculum development and evaluation. Many have abandoned an old method of stock-piling experts in each subject matter field (science, art, etc.) and are developing new alliances with state universities and other sources of subject matter expertise.

Ironically, the federal government from 1965 to 1970 did more than most state legislatures to strengthen state capacities for planning, evaluation and leadership. The greatest federal impact so far is on vocational education, the education of handicapped students, and programs and basic skills for poverty children. The next greatest impact via Title III is in stimulating innovative and responsive education programs for local schools. Another wing of state education agencies worries about school lunch and breakfast programs and to an extent with nutrition education.

The states put the most money into initial teacher training and certification, basic school finance and audits, and school organization and facilities. Many states also finance a network of county school officials who coordinate local school districts and may administer vocational education, special education, immediate services, the in-service education of teachers in certain curriculum development activities. Most southern states are organized on a county basis

and two dozen others use the county as an intermediate level between local and state agencies. Illinois, New York, Michigan, Oregon and other states specifically provide for these intermediate services offices to provide in-service training for teachers already employed and may encourage certain curriculum evaluation activities. More can be expected of state and intermediate levels in disseminating new educational ideas.

Dean John Goodlad of UCLA after 30 years of curriculum development throughout the nation concluded that the most important requirement for success is a network of support for practitioners on a regional basis. He nominates the county unit or educational service region office as one of the strongest contenders for this role. Michigan spends $12 million a year on the intermediate office. Illinois invests $4 million a year into seventy-eight educational service regions. The lesson is simple and yet very important. Most states and regions already have structures which could be harnessed to help local schools identify curriculum needs and disseminate and implement the most promising practices. NIE only recently has begun to recognize the potential utility of educational service regions in disseminating curricula and other innovations.

A CRITIQUE OF PAST FEDERAL INVESTMENTS IN CURRICULUM DEVELOPMENT

Federal policy of the 1960's grew out of dissatisfaction with state and local practices. First the war on poverty, it was reasoned, could be won essentially

through massive infusions of federal funds into urban ghettos and rural backwaters and hollows. Research a decade later on Head Start and various federal title programs raised doubts about the efficacy of the strategy at least in achieving visible and immediate results. As a program of resource equalization, however, much has been accomplished in terms of redistributing the amount of monies available.

Second, the scholars would be paid -- largely by the National Science Foundation -- to modernize programs in science, language and mathematics. Whatever the merit and modernity of content, high school science and language enrollments fell drastically over the same decade, even as the United States won certain critical space races to the moon and to Mars. The new mathematics, any of a dozen programs (some developed by state universities such as Illinois math or University of Maryland math and some regional such as Greater Cleveland math), have substantially altered mathematics teaching at all levels which appropriately responds to the age of computers.

Third, the states initially were bypassed in the federal effort to stimulate new instructional practices and program innovations. Subsequently the states were allowed to decide which proposals for local or regional innovations should be financed. Although many top-down federal or foundation sponsored experimental programs have not endured, dozens of quality programs have been developed locally. The federal government has helped by stimulating local invention, state endorsement, and national publication of the most worthwhile projects. At the same time federal decision-makers initially operated on the

assumption that people in the field are basically sluggish and stupid, or incompetent and malicious. This attitude tends to generate excessively detailed regulations and insulting teacher-proof instructional packages.

Fourth, the federal government has invested heavily in state vocational training programs. These investments have dramatically expanded opportunities first for males and now potentially for females in the emerging occupations such as data processing and health care. State variations are allowed -- for agri-business or electronics or textiles or different kinds of mercantile operations. These programs to expand had to earn the confidence of local or regional employees. Similarly grants to states and help to the Education Commission of the States stimulated new kinds of services to handicapped children ages three to twenty-one over and above the increasingly vast state funds for special education.

Fifth, the federal government developed a network of labs and centers whose impact on state and local schools is substantially less than the Congress intended. Here and there a new red hot idea (for example, individually guided education -- promoted by Wisconsin and Kettering) gained broad acceptance and a few teacher packages find their way into schools. Regrettably we've undereducated the teacher consumer in the skills needed to screen and select the new materials. Teachers have not been helped to adapt programs to local situations, a costly omission. As Goodlad suggests, county or regional units within the states could provide much of this training and support.

The greatest influence on classroom curriculum practices remains the encyclopedia or textbook producers, map makers and promoters of classroom kits. Their salespeople find out what states, school districts and school teachers want and plan their strategies accordingly. Their dollars must count or they will go out of business. Rarely can they secure special grants or develop an idea, convene conferences, or plan "delivery systems" that include educational "packages" or "products" pharmacy style. But the market remains very responsive to urgent needs and popular mandates; within five years textbooks and kits reflect state priorities and federal stipulations because of the dollar incentives.

Over and over again federal interventions have failed to influence American education as much as they could. Consider:

1. The development of expensive high school science courses, many underutilized.
2. The sponsorship of an air-born television satellite over the Mid-west, subsequently cancelled.
3. Investment in teaching machines and program learning, and for most of the products of labs and centers destined for oblivion, a place on the shelf.

Occasionally a group of university-based scholars will negotiate a Copernican breakthrough of the order of the new mathematics or the Aural-Oral mode of

learning foreign languages. But most innovations and new curriculum are just as likely to grow out of teacher initiative or the work of state task forces such as New York and California have convened over the years. Federal grants policies which ignore the beaten path to the classroom are doomed to lose their way.

THE CASE FOR INVESTMENT IN SELECTED EDUCATIONAL HERESY

The schools as we know them are essentially a 19th Century invention like the steam engine. As numerous critics have complained they more resemble work camps and factories than a Socratic model of self-discovery, human dignity and individual growth. Schools are often vehicles of custody, socialization of the bureaucratic life, and for the sorting of talent as required by corporate enterprise.

Adolescents -- and some adults -- rebel against the industrial bias of schooling and the mild to severe repression of spontaneity, creativity and individuality. Just as Winston Churchill was thrown out of seven structured schools, our culture today holds down all but the strictly disciplined scholar.

Half a dozen national commissions now recommend less schooling and more varied experiences in work and community as a remedy for the alienation of adolescents and the irrelevance of standard schooling. Israel, China, Russia and other nations systematically immerse their youth in grown-up activities

while American institutions tend to prolong adolescence. These reviews and trends force us to reexamine the relatively unchanging American school.

The extreme deschooling stance of Ivan Illich is modified by the less strident heresies of:

Kettering -- we should consider lowering the compulsory schooling age to fourteen.

Willard Wirtz of The Manpower Institute who proposes two years of work alternating with formal education for adolescents.

California's Rise Commission which suggests student furloughs of flexible duration with credit offered to those students who fulfill specified objectives.

Coleman who suggests contracts with youth organizations and governmental agencies to accept children out of school.

Sizer who suggests the simultaneous enrollment of children in schools and community groups, agencies, museums, musical companies and other settings.

If these varied remedies ought to be tried then the federal government should

set aside at least five percent of the total funds to support unconventional ventures. Some of these will end in educational cul de sacs -- such as Alum Rock or the early experiments in programmed instruction. There is a case for risk capital, however, in that if the federal government doesn't attempt these ventures only a few foundations can afford to do so. The kind of NIH investments in long-shot cures for heart ailments or cancer must have an analogue in education.

Education is more than schooling. Living takes place in the home, the work place, the playground, the streets and farms and camps. Why bet on only one traditional form of education? To raise this question is heretical but honest. To spend all the money on schools, states and scholars would blind the nation to the broad array of educational possibilities in our culture.

WHAT CURRICULUM THE SCHOOLS NEED MOST

Schools succeed most often with those already favored -- from middle-income to high-income families whose parents benefit from education, job security and good incomes. Schools do the next best jobs with the children of the working class, motivated industrial and farm use.

Schools do the worst job with migrant or mobile youth for simple reasons -- schools stay while the families move on. Education lacks the equivalent of the U-Haul trailer or mobile camper -- ready to respond to the family's need to

travel. Schools also fail many students whose family life is chaotic, violent and without support for literacy, the work ethic or achievement. Banfield argues that educators don't know how to educate the urban poor. Teachers need a modicum of support at home and a minimal respect for learning, books and paper work in order to make schooling effective.

NIE ought to take on the most difficult pedagogical problems just as NIH takes on the most difficult pathologies -- diseases, aging and systemic breakdowns. It must make sure that classroom teachers get help with the most serious local problems.

To be sure the gifted and normal need help. But the talents of most states, most universities, and local school systems naturally flow to the middle 70 percent, the slightly below- and above-average child. Great needs are of the urban and rural disadvantaged, the severely handicapped, the difficult to teach and reach.

The states, counties and local school ...ed help in devising dramatically different and effective strategies devised to help with the education of youth and adults. These general concerns for all youth also come to mind:

1. Mainstreaming, the deinstitutionalization of separate placements for many handicapped youth, the development of resource rooms in schools and of alternative educational settings.

2. Metrication, the speedy conversion of an entire measurement system taught by the schools by the 1980's.

3. Equal respect for minorities, women, bilingual and handicapped persons -- for so many communities taboo subjects for discussion or blind spots in the pursuit of justice.

Each of these three priorities extends to suburbs as well as rural and urban communities since the well-to-do or comfortable tend to aggregate in favored communities. "Liberty and justice for all," as Wilson once remarked about the Declaration of Independence, "represent not a theory of government but a program of action."

NIE should not try to develop the one best system but rather a variety of approaches, any one of which might work given adequate support. Career education is a concept most appropriately tested in the schools, in industry and the community -- and in at least a dozen forms. The notion of a single national curriculum runs against the ideology of state and local control and of a measure of free choice. Milton suggests that the best ideas compete for attention and acceptance. The truth will out. Mathematics instruction was served well by the development of numerous forms of "new math"; physics was ill-served by a near monopoly on new course development until the second new alternative was recognized as absolutely essential. Biology instruction benefitted from a test of multiple methods of instruction. Teachers ought to be able to select and adopt locally a combination of approaches that makes sense in the immediate environment.

WHAT STATES AND OTHER AGENCIES CAN DO

Occupational education grows in popularity partly because of the increasing awareness of crucial vocational opportunities and the growing concern about the college placement possibilities. The other successful characteristic of vocational education is that federal authorities channel most funds to the states for subcontracting. Of course, the federal government requires that each state prepare a plan for allocating funds with goals revised each year for the next year and for every five-year period. Each state works with client school districts, with employers and other consumers, to determine needs and evaluate the success of existing programs. The federal government also sends each state funds to conduct an independent evaluation of vocational and technical education. Some funds are allocated to a national evaluation as well but it is assumed that state needs will vary by region and according to the separate economic characteristics of metropolitan areas.

To whom does a state give the funds and for what? University specialists get many small grants to research and develop needed materials. Some of the funds go to consultant firms with a track record of prior success in meeting state and local needs. Two years ago Illinois asked a consultant firm of women to develop and field-test guidance and counseling materials for junior high school age girls. Another contractor helped develop a management information system for the state agency.

Obviously states can combine their forces for certain tasks. Title V of the Elementary and Secondary Education Act made possible multi-state grants and work conferences which reduce the need for redundant research and development. The states with smaller populations benefit from this kind of cross-fertilization by region. Resources can be shared and similar regional problems addressed.

Some of the regional labs have made an effort to respond to state needs -- especially the Far West Lab which has helped to develop accountability measures and test items for states and schools interested in graduation requirements. The lab director meets with Chief State School Officers each month to identify and evaluate needs. This model surprisingly does not pervade the country. Most of the labs and centers pursue a national constituency, HEW and the Congress, rather than assess local and state curriculum needs. Their survival is as much a tribute to political acumen as to professional impact on the schools. Their products are often promising and of high quality but the dissemination networks are sadly neglected.

Universities are essentially training and research institutions. Very few universities or colleges have identified curriculum development as a special strength. Yale, then Stanford, Boston College, the Universities of Maryland and Illinois, developed mathematics programs in the 1960's. Indiana University under Dean David Clark deliberately chose curriculum development for emphasis and recruited faculty developers more so than they did researchers.

Ohio State University has specialized in the development of vocational education materials. But universities, even some with labs or centers nearby, have failed to assemble a faculty of developers.

This means that research and curriculum development is essentially entrepreneurial -- the lot of energetic professors with a willingness to test out an idea. The New England Lab was virtually the creation of a single MIT physicist who developed a series of curriculum ideas independent of a technical university.

Some of the best ideas may be developed by specialized associations, whether for profit or not. Science Research Associates for twenty years developed reading and science kits that were popular with teachers and students. The Association for Children's Television developed Sesame Street and the Electric Company with an amalgam of federal and foundation assistance. Abt Associates developed simulations, educational games, and other training materials along with innovative approaches to evaluation and social accounting. The Greater Cleveland/Educational Research Council of America developed first a math program, a pollution game, and other materials useful to school systems.

Other firms and universities have nothing to peddle but their image, prestige, and a 300 percent overhead charge on each and every project. Some charge ahead on data collection without coordination with the National Center on

Educational Statistics or with state agencies. Some of their adventures are federally financed by USOE or NIE. No longer can school districts, overburdened by state and federal reporting requirements, endure gracefully these misguided, uncoordinated efforts to reinvent the wheel.

Foundations understandably like to bet on winners, people and projects with the prospect of success. The Ford Foundation and others on occasion have failed to determine whether a groundswell of enthusiasm and an enduring network of support would be in place after some favorite solution won a three-year grant. Federal officials at their peril ignore a substantial state and intermediate school structure already in place or easily strengthened for the purposes of needs assessment, implementation and evaluation.

THE ROLE OF NIE IN CURRICULUM DEVELOPMENT

What expectations are realistic for the National Institute for Education? Researchers expected a kind of well-he led foundation which professors could address for funds. States, in my judgment, erroneously thought that NIE would behave like a sister of USOE and award all grants and contracts through a state education agency-like Title I or Title III. The labs and centers predicted a sugar-daddy relationship, especially in providing overhead for a collection of dedicated developers on a given theme.

The recent shifts in NIE policy keep the professors alert, the labs and centers

lean and hungry, and the states worried about the need to develop their capacities for genuine school improvement. These signs are healthy. No one deserves a free ride so long as schools fail to serve significant segments of the population well.

NIE to succeed in the mission of helping to improve education at all levels needs a variety of strategies and commitments:

1. Annual reviews of program needs expressed by local and state officials, practitioners and theoreticians, critics and scholars, and the citizens at large through their associations, unions and councils. State and regional HEW offices can be helpful in planning these assessment of needs and in identifying immediate and middle-range problems.

   The use of public opinion polls on educational priorities will always be misleading because of the nostalgia factor, the backward look that practically all citizens and parents give their own education. But polls should be considered among many barometers of public concern and commitment.

2. Special reviews of special problems -- even before the general public or the profession is ready for the concept. Someone had to propose testing of vouchers just as someone must test the Airbag or

Family Income Maintainance ideas even before the concept is accepted. The needs of women, minorities, and handicapped already get NIE and USOE attention. Certainly NIE should help develop the remedies, the solutions -- quietly, productively and sensitively.

3. Basic research on fundamental problems which constrain educational productivity. Can reading levels among the poor be raised? Has desegregation worked? Why aren't certain title programs more effective? Will education be ready for the post-industrial society? Why can't the nation educate voting citizens? How can the schools cope with television -- or are new modes of response required, or new models of education needed?

Some of these problems have little constituency and possible antagonists. No matter. Education needs risk capital, the basic questions raised, and provocative answers developed. NIE cannot let an establishment veto the research on class size, tenure, collective bargaining, the efficacy of skill training and other sensitive issues. Why now is the only major research on declining test scores being done by one of the major producers and scorers of tests? Where are the neutral referees, the impartial guardians and judges and why doesn't NIE finance such an inquiry? NIE should carefully separate the evaluation contracts from the contracts for

development and production.

4. Multipliers of options. We now know that not all children respond to the same reading programs. The autistic and aphasic children need help different from other students. NIE from time to time should disseminate what NEA/AERA and administrators once tried to do in the series "What Research Says to the Teacher." What works, and where, and for whom, and at what confidence level? The ERIC Search for most teachers is too pondererous an effort; digests and summaries are needed to guide the busy practitioners to the multiple answers to singular questions. NIE must help the states and universities train local school staff to become more sophisticated selectors and adopters.

5. Granter of contracts. NIE should not "do" research but should see to it that it is done well by others. Scholars should sit in residence to help critique the state of the art and shape useful research agendas -- stating what pieces of research are required for subsequent success. NIE should ordinarily issue RFP's to a great variety of possible vendors and makers of curriculum. Let the best talent compete for the big grants. Let newcomers scramble for small grants to develop the plural options needed.

6. The keeper of quality controls. NIE should not sit in exclusive

judgment on the merit of proposals and materials but should assemble the talent needed to evaluate materials. In America no one should drown out the others. Local and state practitioners, scholars, evaluation firms -- all should have a hand in determining the work of curriculum courses, sequences and materials.

NIE sponsored programs should be field-tested in a variety of settings. State officials often can help volunteer the public and private settings for research and development. Their feel for local and regional variations is more current than that of federal counterparts. The alternative of single national models won't work in many settings.

NIE and its councils must act as the conscience for new materials development and see that criticism flows in during the early stages of production even prior to dissemination and widespread adoption. Scholars are good at this. Teachers and state officials also make better critics than developers -- with certain exceptions. Involvement at the "working draft" stages can reduce the MACOS and West Virginia textbook controversies most of the time.

Clearly some of the important initiatives for NIE will come from other federal sources -- the Congress, the White House, other domestic agencies, Defense and State Departments, advisory councils and special task forces. So be it. The

protection against any one source for an idea will be the insistence on multiple options and educational alternatives.

A DESIGN FOR CURRICULUM IMPLEMENTATION

Paul Mort once studied the adoption rate of new educational ideas -- innovations such as the junior high school (C. 1915), the guidance, and audio-visual aids. He found an incredible time lag -- up to fifty years -- between initial adoption by one school and widespread acceptance by practically every school district. One exception was aeronautics education which during World War II gained as swift an acceptance as the Victory Garden. Richard Carlson later reviewed the adoption of new curriculum and found that certain school districts hired aggressive superintendents who were early adopters and that other school districts often waited for prestigious school systems and superintendents to take the risks and prove the worth of a new idea.

NIE can help to develop curricula, to identify needs, and can evaluate the worth of ideas but cannot effectively deal with 16,000 school districts and thousands of private schools. Implementation would require several thousand field agents working not in Washington but in the states. These agents or at least the agencies already exist in most states and in county or regional offices within the state.

Agricultural productivity soared when developers passed their ideas on to

county agents to pass on to skeptical farmers. The smart farmers used the new seed, the fertilizers and fungicides, the irrigation and drainage solutions and bought out their indifferent, indolent, or inefficient neighbors. NIE must help state and regional officials increase the sophistication of local school consumers of educational materials and curricular as USDA helped the county staffs.

The analogy doesn't quite fit education which usually lacks the profit motive or the visible success of hybrid corn or huge beef cattle. Some counties as in Massachusetts may be too large and some, as in Iowa or Washington, too small to justify a county officer for education. What does work is a decentralized within-the-state structure for curriculum assistance and stimulation. Such structures are developed in the highest form in Maryland counties, the New York State BOCES, and the Michigan intermediate school districts such as the one around Pontiac. Each of the western states and many of the midwestern states have units which can be strengthened by capacity-building grants for implementation purposes.

Ideally the intermediate regional education service agencies are established and financed by the state to perform those special assignments most school districts cannot perform by themselves. Districts with more than 30,000 students generally can provide for themselves but still can profit from sharing of staff, space and services with the metropolitan area around them. States may call upon such regional staff to provide technical assistance, needs assessment, special and vocational services, media assistance, evaluation and

other help to local schools. Their regional staffs vary from two to two hundred professional or more according to the population served and the amount of state assistance.

The best of the intermediate units find out what kinds of curriculum help local schools need and then find a way to conduct the most appropriate form of workshops, seminars, laboratories, visits to schools or mix of experiences needed. Some still remain with a format Horace Mann popularized in the 1840's -- the county teachers' institute in which teachers listen to the various experts sent out by state and college faculties. Others experiment with teacher-organized teacher centers with needs and priorities really organized by local practitioners. They can help local school people select the products and materials that carry out local as well as national and state objectives.

Much of what colleges and universities do during the summer and regular sessions may be called continuing education but is aimed more to the production of degrees and advanced certificates rather than to curriculum change in the schools. Needed are incentives to persuade higher education officials to recognize the need to update teachers with the new knowledge and skills needed to perform adequately in the schools.

Any serious effort to reconnect the schools with community and other local agencies will require substantial retraining of principals, counselors and school staffs. Further training is almost exclusively oriented to activity within the walls of the school right now. They lack the external or community

organization skills expected of every trained social worker, for example, in developing alliances with other community agencies.

Implementation, therefore, should rely heavily on state and regional arrangements. Regional/county units should have access to state and federal funds and to whatever college or university staffs can contribute useful solutions and dissemination of results. States can help evaluate the success of specific dissemination strategies and can help fill gaps in the system.

Normally NIE would not package a single standard solution or "delivery system" but would offer an array of options. These would respond to national, state and regional concerns and would be developed by a team of practitioners and scholars with critics and evaluators present at each stage of development. Ten states might make available sites for field testing of curriculum and materials and state officials would participate in the evaluation. When a curriculum is validated the states would help regional and local officials and teachers secure the most appropriate form of in-service training and other resources needed. Certain new, complicated and sensitive issues, e.g., bilingual education or sex desegregation, may require additional multi-state regional centers for a period of time for after ten years. Some topics such as international education or evaluation of reading may require a long commitment to a single scholar, a university, or an association.

NIE should contract out virtually all of the development, evaluation, and

dissemination activities on an RFP basis to qualified vendors, public and private. The internal staff should engage in policy planning, agenda-setting, contract management, quality-control and budgetary preparation.

THE RESOURCES NEEDED

NIE observes that USOE spends $100 million a year for vocational and technical education materials development and evaluation. NSF spends $15 million a year just on science and related fields. Clearly to expect the rest of education to develop on $100 million is absurd. NIE at full strength would spend:

$100 million for basic research

$200 million for applied research of which one-half would be on curriculum and program issues, the balance on evaluation and assessment

$100 million on vocational education research, a function transferred to NIE in 1980's

$100 million on special education research, similarly transferred to NIE

$100 million on dissemination and implementation, one-third to national and special efforts and two-thirds to state and regional agencies.

To avoid the implementation investment is to put educational change back in the world described by Paul Mort. Goodlad properly identifies the need for networks to support innovation and curriculum change. Many of the networks

for change are in place. Some of the urban problems -- bilingualism, and segregation -- require multi-state regional centers. The long-range or other-than-school solutions need sponsorship by associations or special consortia.

A SUMMARY OF POLICY ISSUES

1. College entrance requirements and the expectations of university professors now determine only a portion of the school curriculum; scholars working without the partnership of school practitioners may produce educational Edsels.

2. States have the primary responsibility for educational goal-setting, finance, supervision and the implementation of new curriculum.

3. Federal stimulation of innovation generally and of vocational education in particular has worked effectively when most of the funds are subcontracted by states according to carefully designed plans.

4. Single option curricula or single models fail to provide the range of alternatives needed in different states and school districts -- e.g., in math.

5. Labs and centers succeed only to the extent they work closely with states and local consumers, often a missing link to date.

6. The federal government should stimulate efforts to define education in other than school settings.

7. Curriculum research should focus on difficult problems of learning and teaching more so than on normal clientele except where the need is to shift pedagogy for all -- e.g., metrication.

8. Many agencies and vendors should compete for the right to develop new curricula.

9. NIE should not develop or determine curriculum but should contract the development and evaluation to others, leaving most of the implementation work to states, regional networks and local schools.

10. Additional resources will be needed to a tune of $600 million a year by the early 1980's to do the job.

Biographical Statement

Joseph M. Cronin from 1972 to 1975 was Massachusetts Secretary of Educational Affairs and since January 1975 has been the Illinois State Superintendent of Education. He studied and taught at Stanford and Harvard Universities and has directed research on state and local administration. He has worked on curriculum projects as a California teacher, a Maryland principal, and as an evaluator of the Educational Research Council of America, the New York State Education Department, and various city and regional school agencies. He wrote The Control of Urban Schools and more than forty articles and reviews on educational issues.

Acknowledgements

The author interviewed State Superintendents Frank Brouillet of Washington and Verne Duncan of Oregon while preparing this paper. Critics of an early draft included Dr. Nelson Ashline, Deputy State Superintendent of Education in Illinois, along with Dean Myron Atkin, and several professors at the University of Illinois including Thomas Sergiovanni. The works of Richard Carlson, Matthew Miles, Paul Mort, Brickell, Goodlad, Coleman, Sizer, and Roald Campbell have influenced the author. The conclusions, analyses and judgments remain that of the author.